

Cable Operators Neutral Network Exchange for Community Transformation (CONNECT)

A EU-funded project implemented by UP-EEEI

<http://connect.net.ph>

It's more fun in the Philippines

- The Philippines remain to be the social media capital of the world*
 - 89M social media users (facebook, twitter,etc)
 - There were 152.4 million mobile connections in the Philippines in January 2021
- Social media fueling the economy
 - Democratizing information
 - Creating new jobs
 - Pushing brands and businesses to new heights



However, Internet penetration rates remain low as incumbent telcos are reluctant to invest in building wired infrastructure in areas with potentially poor returns

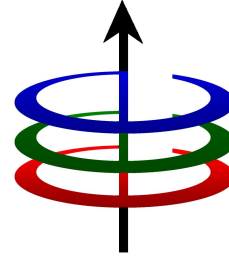
Cable operators are powerful market forces

- Cable operators are well established in rural areas
 - Extensive wired infrastructure deployed in their respective service areas
- Many small cable operators have insufficient access to critical Internet resources
 - Competent human resources
 - Affordable upstream Internet services
 - Pole infrastructure in missionary areas



We try to CONNECT!

- Cable Operator Neutral Network Exchange and Community Transformation
 - Asi@Connect-funded project implemented by UP-EEEI, DOST-ASTI, Central Luzon State U, and Telmarc Corporation
- Aims to empower both the cable operators and the communities they serve
 - Develop robust infrastructure for reliable Internet service
- Ongoing implementation until June 2021



Asi@Connect



This project is co-funded
by The European Union

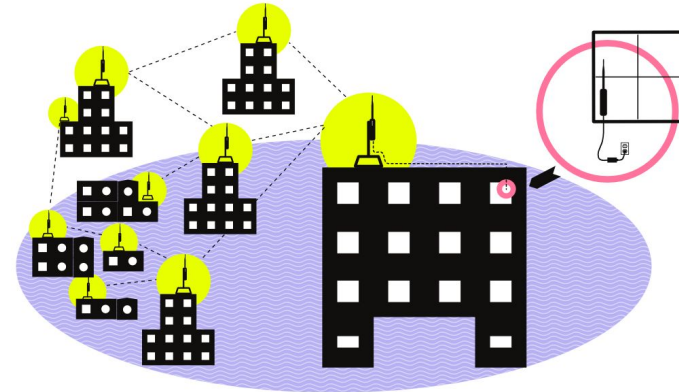
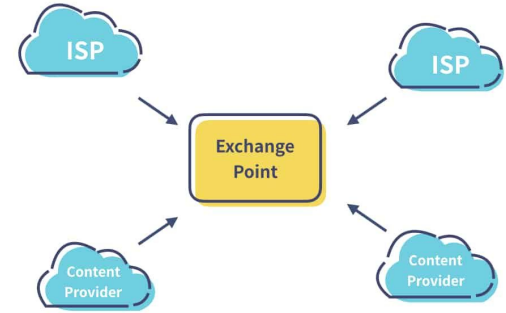


This project is implemented
By TEIN-CC



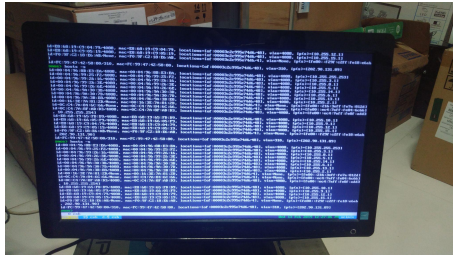
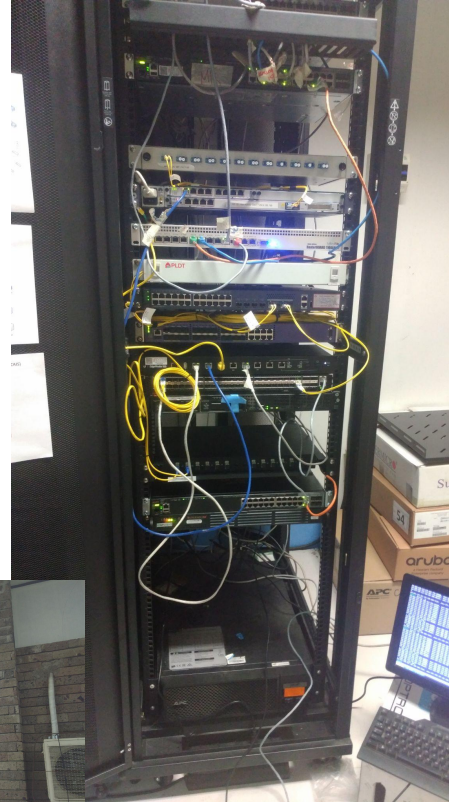
Collaboration is key in narrowing the gap!

- Attempts to foster collaboration among cable operators
 - Organize technical forums on Internet service ops
 - Provide BGP trainings to cable operator groups
 - Establish neutral IXP for cable operators
 - Implement novel network services useful for the cable industry
 - Empower the community to build own wireless-based network access infrastructure



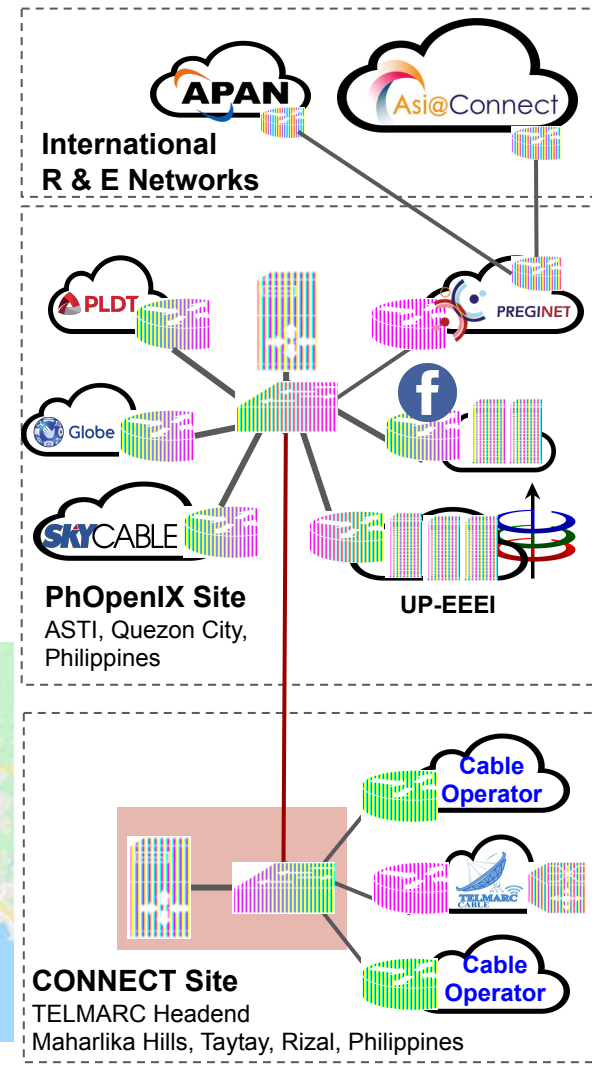
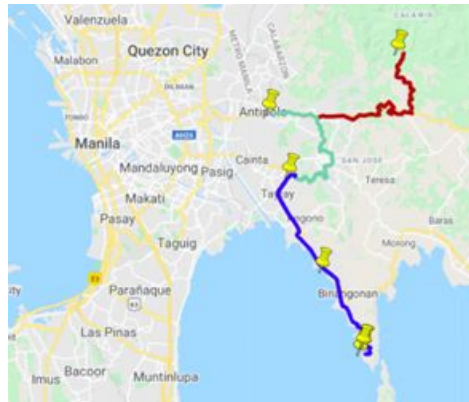
Software-defined networking enables novel applications

- Pilot testing an SDN-based Internet exchange point
 - The Science City of Munoz Internet Exchange (SCIMIX)
 - Strategically situated in Nueva Ecija, Philippines (CLSU campus)
 - Platform for developing novel IXP network applications
 - Provides high-speed interconnection facility for research and educational institutions, and commercial providers operating in the region

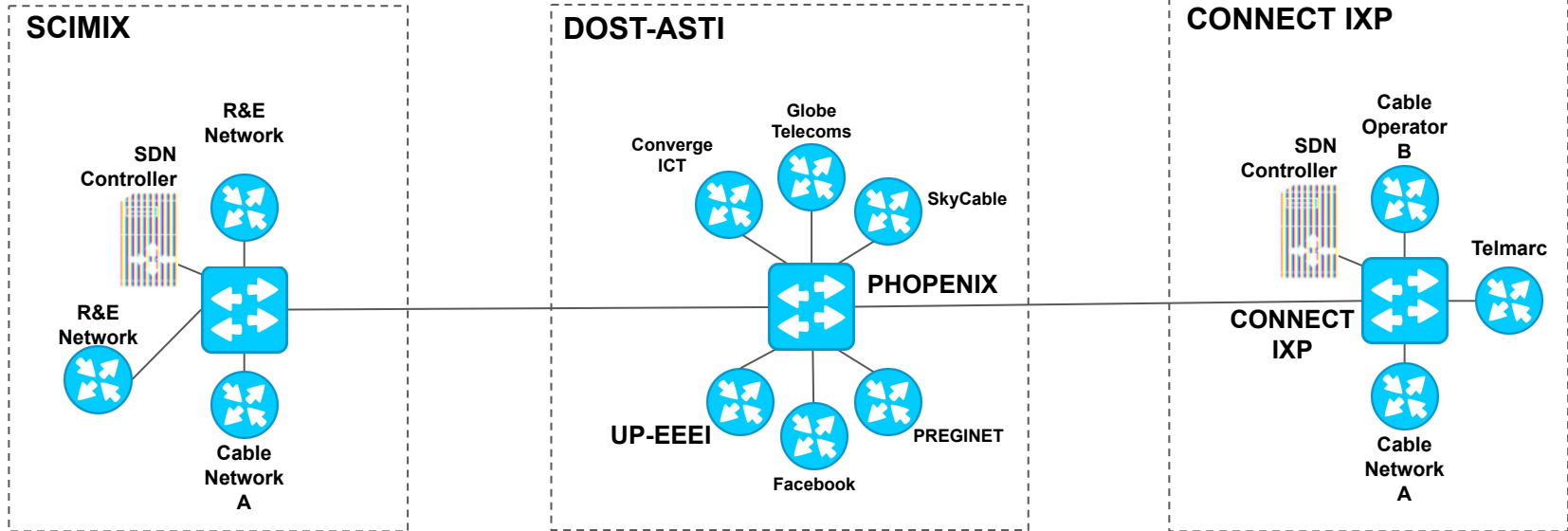


Cable Operator IXP needs to be in a neutral location

- CONNECT IXP located in Telmarc's headend office
 - Leverage existing points of presence (PoPs) of various cable operators
 - Will provide members access to PHOpenIX content in DOST-ASTI
 - Peers already are APNIC members



Three IXPs are better than one!



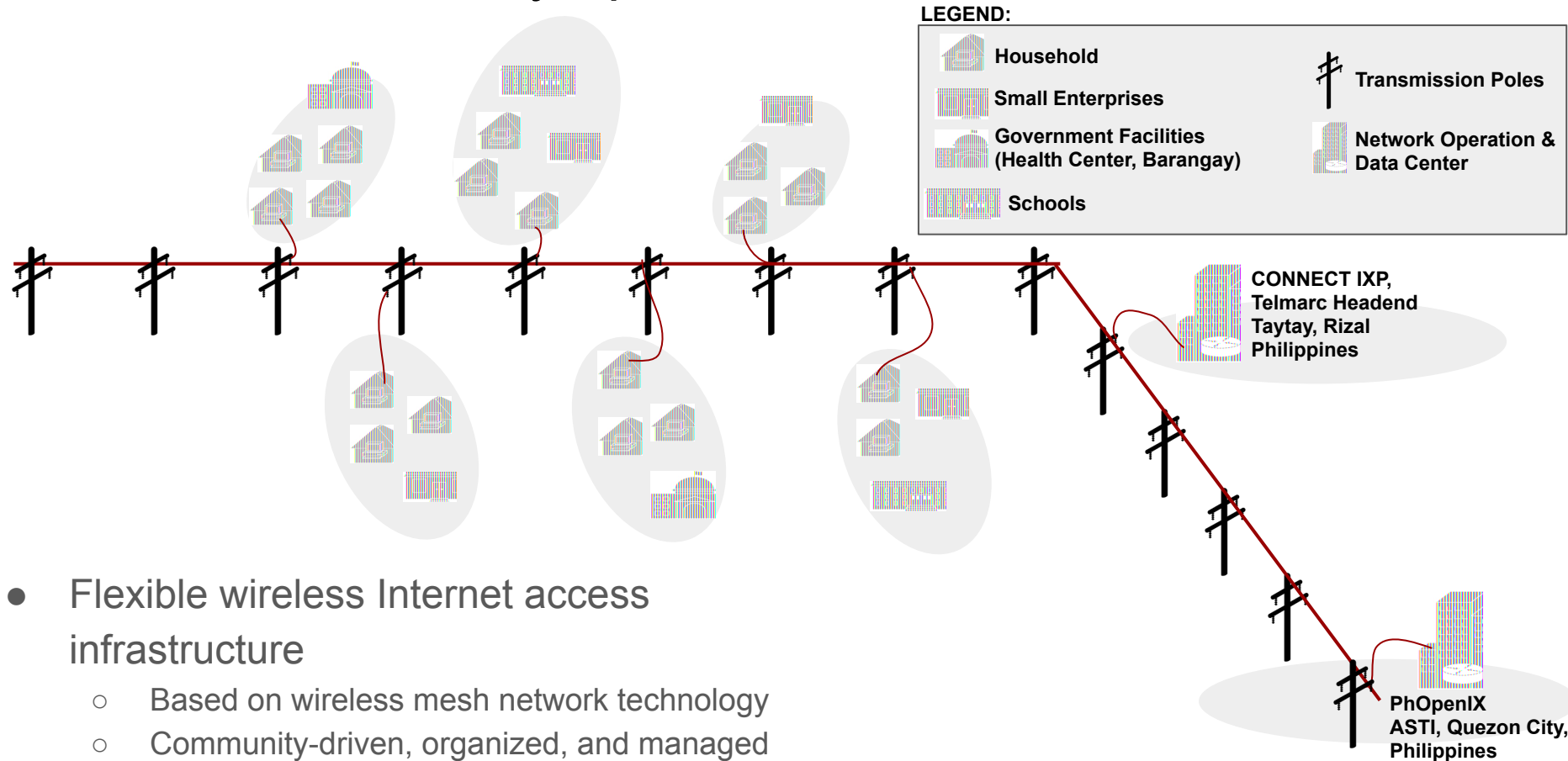
Prospective peers:

- Bitstop (AS17452)
 - Munoz Cable
 - Philippine Rice Research Institute
 - CLSU
 - PhilMech
- } Non-APNIC members yet

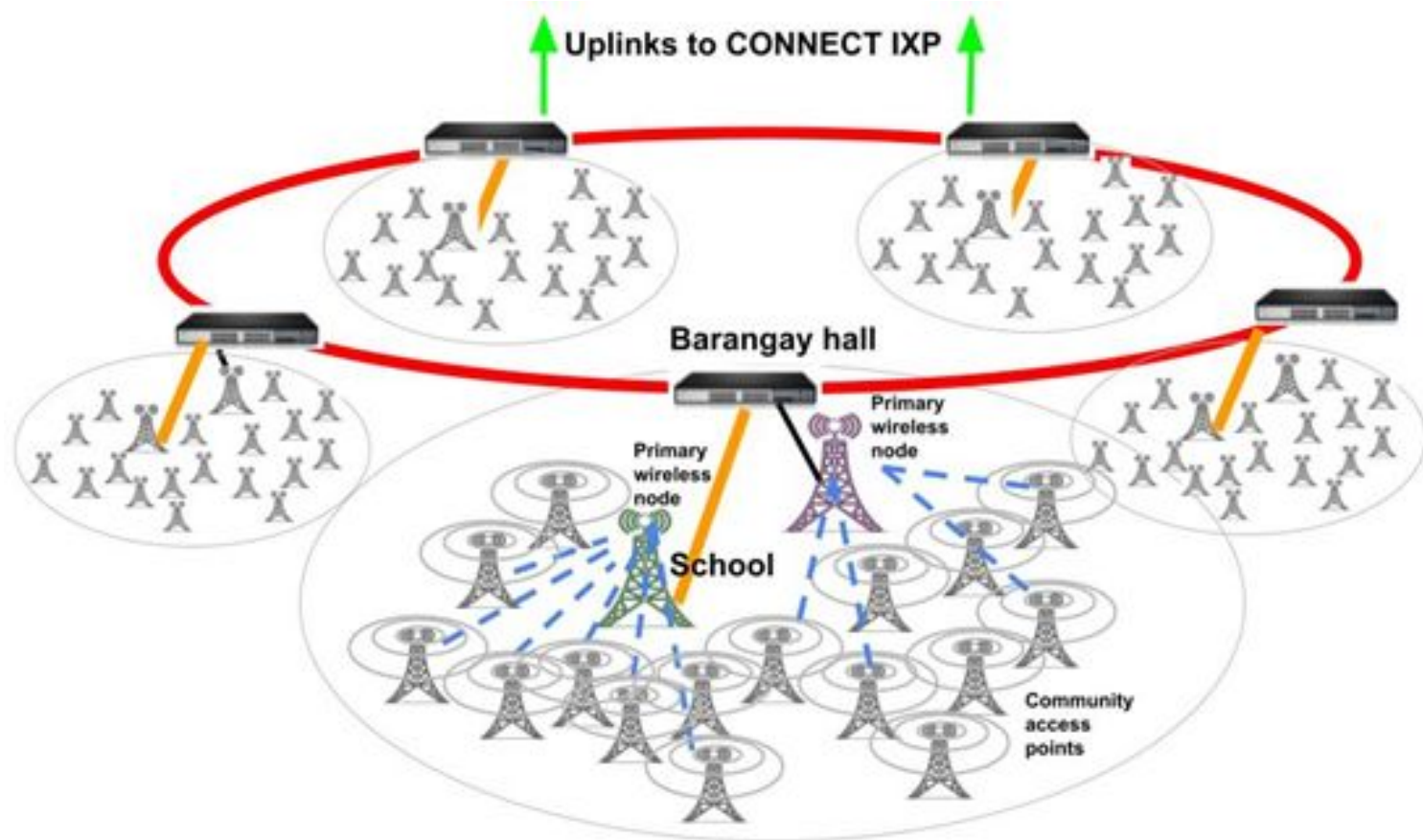
Prospective peers:

- Kabayan Cable (AS135594)
- Cablelink (AS38183)

CO-OWN: Community-operated Wireless Networks

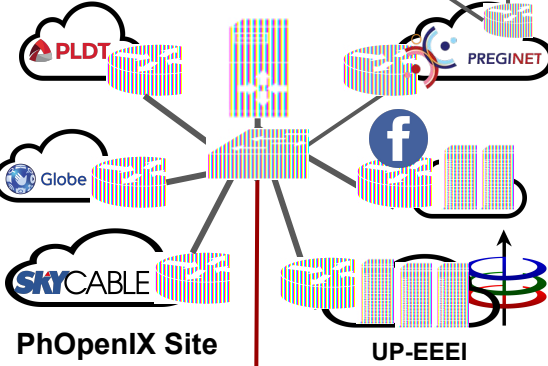


CO-OWN: Community-operated Wireless Networks

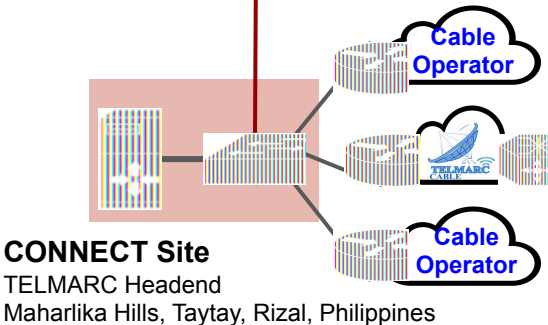


CONNECT Network Architecture High-Level Design

International
R & E Networks



PhOpenIX Site
ASTI, Quezon City,
Philippines

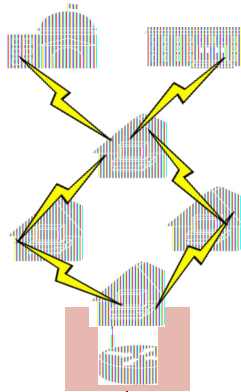


CONNECT Site

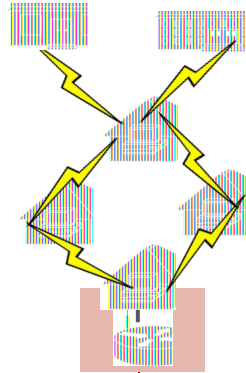
TELMARC Headend
Maharlika Hills, Taytay, Rizal, Philippines

CONNECT Service Project Area Binangonan, Rizal, Philippines

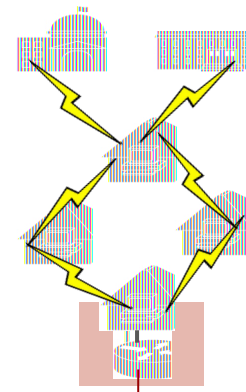
Target Community #1



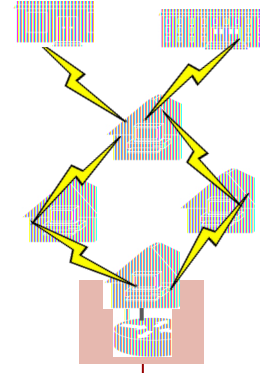
Target Community #2



Target Community #3

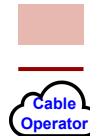


Target Community #N



LEGEND:

CONNECT Wireless
Access Backbone Network



CONNECT Equipment

CONNECT Fiber Optic Cable Network

CONNECT Target Beneficiaries

